DOCUMENT RESUME

ED 317 165 IR 014 234

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TITLE MATS--Management Accounting Tutorial System. Version 1.0. User Guide.
INSTITUTION Manchester Univ. (England).
PUB DATE 89
NOTE 64p.; For related reports and a user guide, see IR 014 231-233 and IR 014 253-255.
PUB TYPE Guides - Classroom Use - Materials (For Learner) (051)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Accounting; *Business Education; *Computer Assisted Instruction; Computer System Design; *Databases; Foreign Countries; Guidelines; Higher Education; Instructional Development
IDENTIFIERS University of Manchester (England)

ABSTRACT

The Management Accounting Tutorial System (MATS) is a management accounting database for a carpet manufacturing company. The system allows the display and output of monthly activities, and is intended to provide a means of illustrating the main topics of the second year management accounting course at Manchester University. The system itself provides no tutoring as such, but the outputs of the system are geared to illustrate aspects of various topics. This user guide includes the following sections: (1) an introduction to personal computers; (2) system requirements; (3) installation of MATS; (4) start up (with sections on the opening screen, the main menu, displaying individual months of information, displaying year-to-date information, printing tutorial packages, print selector, and generating system data); (5) error description; and (6) examples of printouts. Within each of these sections, step-by-step illustrated instructions are provided for using the system. An index of major terms is included. (GL)

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USER GUIDE

MATS - Management Accounting Tutorial System

Version 1.0

Andrew Wardle **Rodric O'Connor**

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1.0) INTRODUCTION

The Management Accounting Tutorial System is a teaching aid which consists of a comprehensive database of company figures for a hypothetical carpet business. The user can pull down data from the system in many formats, which can then be used to give the topics of a 2nd year management accounting course some basis in the real world. It is intended that the MATS provide help primarily of an illustrative nature

1.1) AN INTRODUCTION TO PERSONAL COMPUTERS

There are three parts to a computer system: hardware, software and you (the user of the system). See figure 1.1.

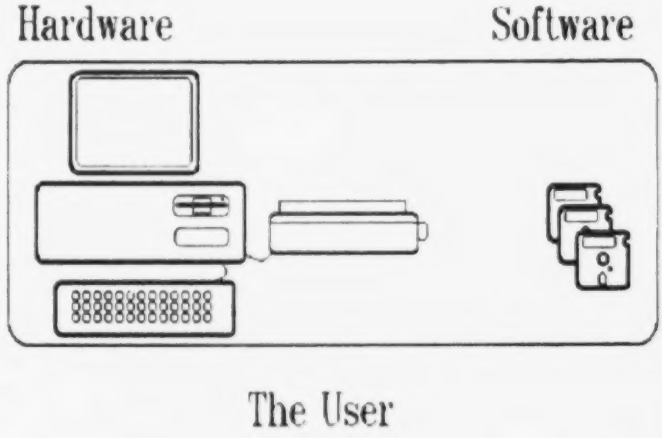


Figure 1.1

Understanding each hardware and software component will give you a better working knowledge and appreciation of the computer environment as a whole.

HARDWARE

Generally there are four visible and distinct components to a computer system. You will use the **keyboard** to communicate with the computer by typing instructions and requests for information. The computer will then use the **monitor** and the **printer** to communicate with you by either display or printing your requests. The **system unit** processes all of your instructions and co-ordinates both input and output. See figure 1.2.

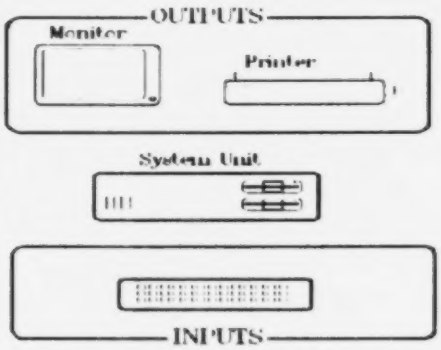
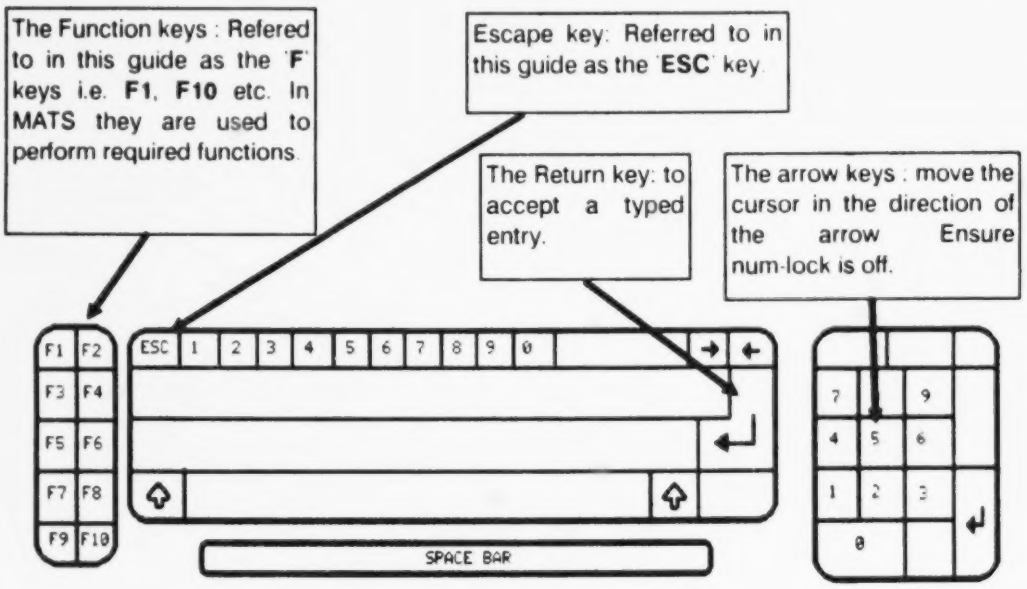


Figure 1.2

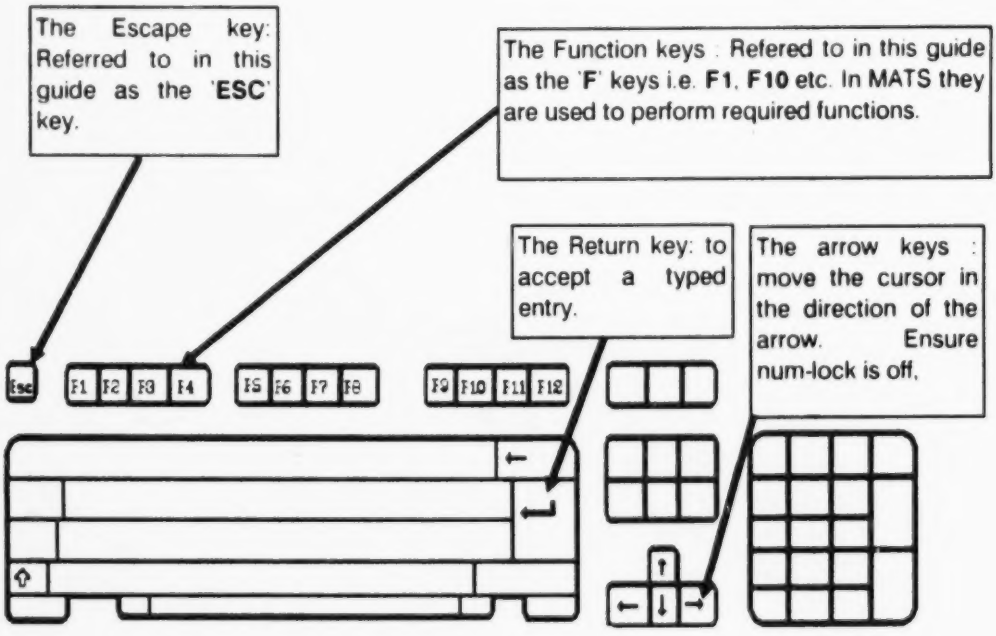
KEYBOARD

There are two basic types of IBM keyboard, The AT computer's 102 key and the XT computer's 84 key. They both have key functions but they have different layouts.

In addition to the standard type writer keys, the keyboards contains special keys which may need explanation. i.e Function keys. Escape keys and Editing keys. See figure 1.3.


The Function keys : Refered to in this guide as the 'F' keys i.e. F1, F10 etc. In MATS they are used to perform required functions.
Escape key: Referred to in this guide as the 'ESC' key.
The Return key: to accept a typed entry.
The arrow keys : move the cursor in the direction of the arrow Ensure num-lock is off.
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10
ESC 1 2 3 4 5 6 7 8 9 0
SPACE BAR
7 9 4 5 6 1 2 3 0

IBM XT 84 KEY


The Escape key: Referred to in this guide as the 'ESC' key.
The Function keys : Refered to in this guide as the 'F' keys i.e. F1, F10 etc. In MATS they are used to perform required functions.
The Return key: to accept a typed entry.
The arrow keys : move the cursor in the direction of the arrow. Ensure num-lock is off.
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

IBM AT 104 KEY

Figure 1.3

SYSTEM UNIT

There are two types of system unit, the basic XT and the more advanced AT. The main difference between the two, for our purposes, is speed, The AT being faster.

DISK DRIVES

A disk drive can either read or write data to a magnetic disk, there are two types of disk drive: floppy disk drives and hard disk drives. Each disk drive is called by the computer by different names e.g 'A:' for a floppy drive and 'C:' for a hard disk. See figure 1.4.

Figure 1.4

Floppy disks allow you to transfer software programs and data files from one computer to another. These disks are very fragile, and have to be handled with care. To use a disk,it should be held by the label and inserted into the disk drive with the label facing upwards; the drive door should then be shut. When you have finished with the disk, always replace it in its protective jacket. See figure 1.5.

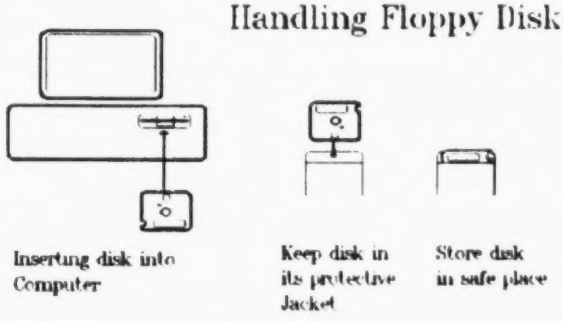


Figure 1.5

A hard disk drive reads and writes data to a large magnetic disk which is permanently mounted inside the system unit.Hard disk drives hold more information and are faster.

SOFTWARE

The software is the instructions the computer requires to perform your task (normally supplied on floppy disks).

MATS is the application software of your system, and it is written in a language called DBASE. In order to run MATS, DBASE has to first be loaded into the computer (see start up page 8).

2.0 SYSTEM REQUIREMENTS

Minimum Requirements

Hardware :	IBM PC XT or compatible
	512 Kb Random access memory
	Printer on-line
	MS-DOS 3.1 or higher
	5.25 inch , 360Kb Floppy disc drive
Software :	Dbase III Plus

It should be stressed that these are minimum requirements. Installation on an IBM AT's fixed disk would greatly speed up the MATS system.

2.1 INSTALLATION OF MATS

INSTALLING ON A HARD DISK

1) Insert MATS floppy disk into drive A:
2) Type at the DOS prompt :

A:\FTOH

3) Once the file transfer is completed, MATS will be installed onto drive C: of the hard disk in a directory called C:\MATS.

INSTALLING ON A FLOPPY

1) Insert a blank, formatted disk into drive A.
2) Type at the DOS prompt:

C:\MATS\HTOF

3) Once the file transfer is completed, MATS will be installed onto the floppy disk.

Once MATS has been installed onto a hard disk it can be transferred to a floppy and from the floppy back on to a hard disk. See figure 2.1

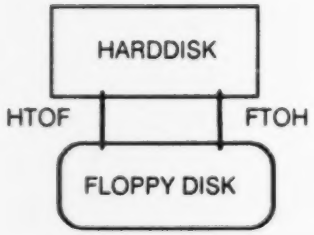


Figure 2.1

3.0 START UP

At this stage you should have some knowledge of personal computer systems. The Tutorial system should have be installed on a hard of floppy disk (see Installation page 8).

The start up process is different for different computer configurations, follow the instructions for your system. If you are not sure of your configuration ask advise from an experienced user.

WHEN RUNNING DBASE ON A NETWORK

1 Place the network disk in the floppy disk drive (called drive A:).

2. Turn on the computer and monitor.

3. Enter the date (only if the shown date is incorrect), and press the Return key.

4. Load dBase into the computer : type at the 'C:\' prompt -

DBASE

and press the Return key.

5. Once Dbase has loaded press the Return key to remove its title screen.

6. Remove the Network disk from the floppy drive, and replace it with your MATS floppy disk.

5. Tell the computer you want to use the floppy disc drive : type at the '.' prompt -

SET DEFA TO A

and press the Return key.

6. Start MATS : type -

DO MENU

and press the Return key.

WHEN DBASE IS ON YOUR SYSTEM UNIT'S HARD DISK AND MATS IS RUNNING ON THE FLOPPY DRIVE

1. Make sure the floppy disk drive is empty.

2. Turn on the computer and Monitor.

3. Enter the Date, if the shown date is incorrect, and press return.

4. Place the MATS floppy disk into floppy disk drive A.

5. Tell the computer you want to use the floppy drive: type at the 'C:\' prompt -

A:

and press the Return key.

6. Load Dbase into the computer : type

DBASE

and press the Return key.

NOTE: To do this the computer must have Dbase set as a path - ask an experienced user to set up your computer to do this. If you know the path name of Dbase you can use a utility supplied on the MATS floppy disk to temporally add Dbase's path to the DOS path list e.g.

If your DBASE path is C:\APPLICS\DBASE, *before you start DBASE type at the 'C:\' prompt -*

ADDPATH C:\APPLICS\DBASE

and press the Return key.

7. Tell the computer you want to use the floppy disc drive : type at the '.' prompt -

SET DEFA TO A

and press the Return key.

8. Start MATS : type -

DO MENU

and press the Return key.

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WHEN DBASE AND MATS IS ON YOUR SYSTEM UNIT'S HARD DISK.

1. Make sure that the floppy disk drive is empty.

2. Turn on the computer and Monitor.

3. Enter the Date, if the shown date is incorrect, and press the Return key.

4. Tell the computer you wish to use the MATS directory. type at the 'C:' prompt -

CD \MATS

and press the Return key.

5. Load Dbase into the computer : type

DBASE

and press the Return key.

NOTE: To do this the computer must have Dbase set as a path - ask an experienced user to set up your computer to do this. If you know the path name of Dbase you can use a utility supplied on the MATS floppy disk to temporally add Dbase's path to the DOS path list e.g.

If your DBASE path is C:\APPLICS\DBASE, before you start DBASE type at the 'A:\' prompt -

ADDPATH C:\APPLICS\DBASE

and press the Return key.

6. Start MATS : type at the '.' prompt -

DO MENU

and press the Return key.

3.1 THE OPENING SCREEN

The first thing you see on the screen, if MATS has loaded correctly, is the title screen shown below.

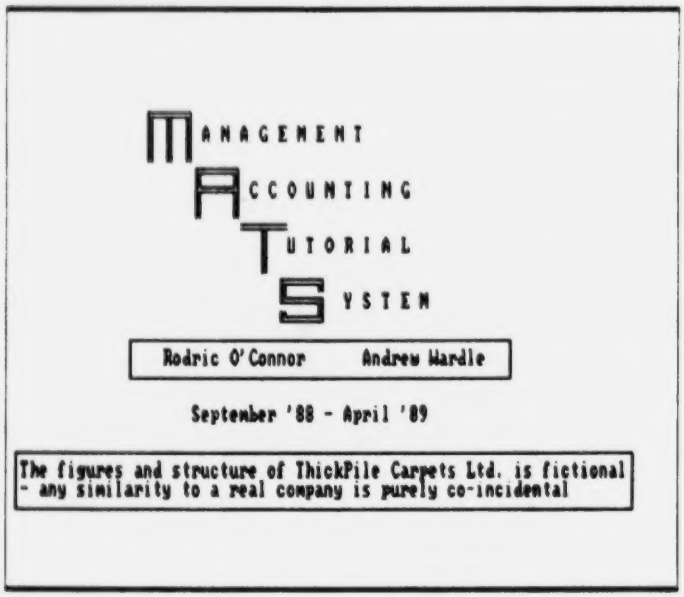

MANAGEMENT
ACCOUNTING
TUTORIAL
SYSTEM
Rodric O'Connor Andrew Wardle
September '88 - April '89
The figures and structure of ThickPile Carpets Ltd. is fictional - any similarity to a real company is purely co-incidental

Figure 3.1

This should remain on the screen for a few seconds, as MATS sets itself up.

3.2 MAIN MENU

After the title screen has been shown, the Main menu is displayed on the screen. See figure 3.2.

This is the top level of your available screens, the level you are on is indicated by the number of lines surrounding the screen i.e. two lines indicating the main menu level, one line indicating one level away and no lines to indicate two levels away.

In the MATS system the top right corner of the screen tells you what part of the system you are currently in, and the bottom left corner of the screen tells you what will happen if you press the **ESC** key.

From this screen all of MATS's facilities can be accessed.

To select an option enter its appropriate number. This will be shown in the '**[ ]**' space. If you have selected the wrong number delete your entry by pressing the backspace key and re-enter. To accept the number press the return key.

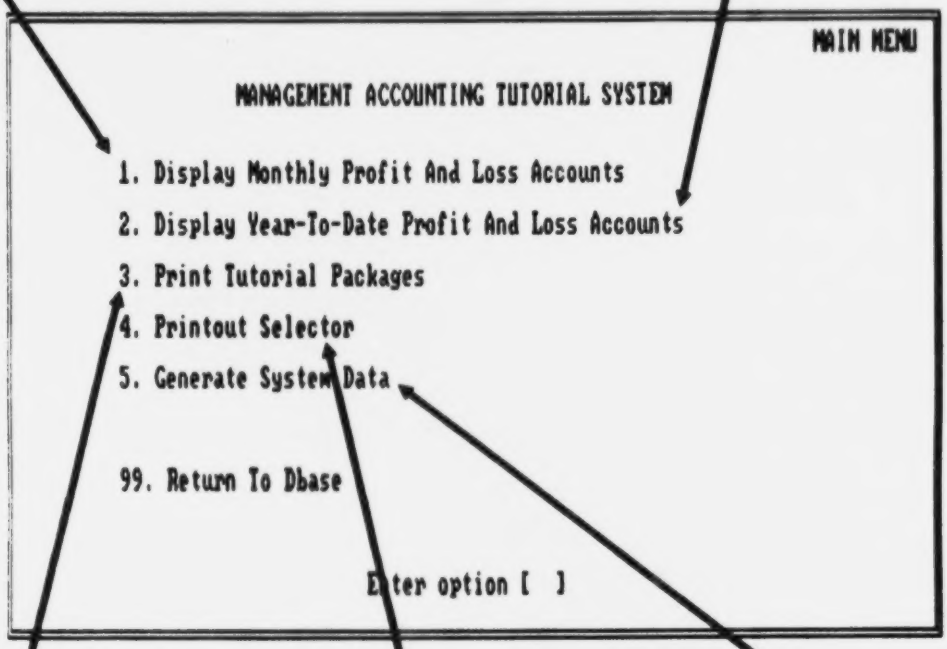
If a printer is not available when option three or four is selected, a message is displayed; after the message press the space bar to return to the option selection.

If the MATS information is incomplete (you might have aborted a generation procedure) a message will be show on the main menu screen warning you of the fact. Select option **5** to generate the missing information.

To quit MATS enter '**99**', this will return you to the operating system. If you are running MATS from a floppy disk remove it from the floppy disk drive and replace it in its protective case.

Option 1: This shows you on the screen information for an individual month, including Budget and Actual profit and loss accounts for both Marginal and absorption costing, reconciliation of budget and actual profits under marginal costing.

Option 2. This displays the same statements as option 1, but instead of individual month's statements it shows the year to a months statement e g. Year to June, Year to December.


MAIN MENU
MANAGEMENT ACCOUNTING TUTORIAL SYSTEM
1. Display Monthly Profit And Loss Accounts
2. Display Year-To-Date Profit And Loss Accounts
3. Print Tutorial Packages
4. Printout Selector
5. Generate System Data
99. Return To Dbase
Enter option [ ]

Option 3. This allows you to print the information to be used for the tutorial packages. i.e. Tutorials one to five and the introductory package.

Option 4. This allows any part of the information in the system to be printed, or stored in a file.

Option 5. This option loads a menu that allows you to generate the MATS information from the current input files.

Figure 3.2

3.3 DISPLAYING INDIVIDUAL MONTH'S INFORMATION

[Option 1 from the main menu screen]

SELECTING THE REQUIRED MONTH

After selecting option one you will be prompted for the number of the month you wish to view (1 - 12). Enter your choice in the highlighted box and press return. See figure 3.31.

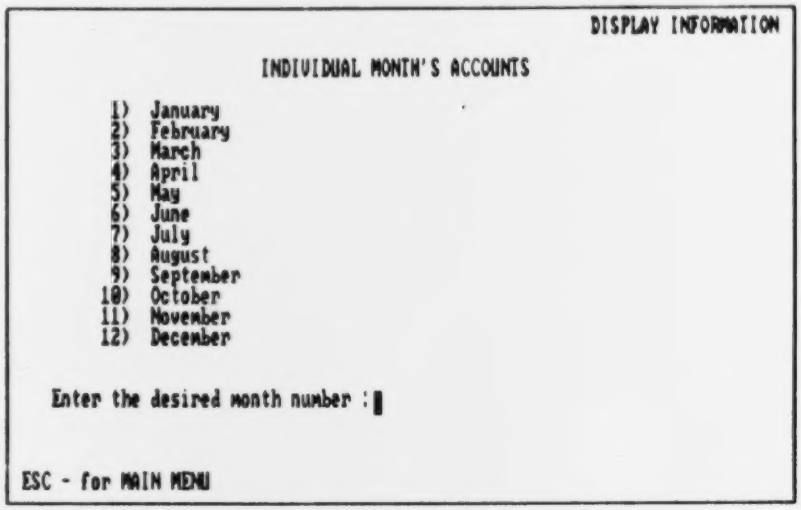


Figure 3.31

If you type an incorrect number use the Backspace key to delete, and re-type your choice. Be aware that hitting the backspace key when the highlighted box is empty returns you to the main menu.

Pressing the **ESC** key also returns you to the Main menu screen.

THE DISPLAY SCREENS

After correctly selecting a month number, you will see that month's marginal profit and loss account displayed. See figure 3.32.

BUDGETED and ACTUAL Profit and Loss Account for January — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,424,000		1,433,000
Opening Stock	852,000		853,850	
Material Purchases	1,490,440		1,492,650	
Direct Labour	101,700		101,375	
Direct Electricity	59,160		59,160	
Closing Stock	(1,306,190)		(1,300,400)	
COST OF SALES		1,197,910		1,206,635
GROSS PROFIT		226,090		226,365
Non-direct costs		181,000		188,873
NET PROFIT		45,090		37,492
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		16,140		10,218
Profit b/f		832,000		832,000
Profit c/f		848,140		842,218

ESC- MAIN MENU F7- absorption F8- variances F9- previous month F10- next month

Figure 3.32

Your available options are highlighted at the bottom row of the screen:

ESC - Will return you to the Main menu screen.

The function keys have the following affects :

F7 - To toggle between the Absorption and Marginal costing profit and loss accounts.
F8 - To display the reconciliation of budget and actual marginal costing net profits i.e. Variance Analysis.
F9 - To display the previous month's information.
F10 - To display next month's information.

The current month is indicated at the top of the screen, together with the costing method currently being displayed. **F9** and **F10** can be used to page up and down each month of the year. Pressing **F7** will switch the costing method from marginal costing to absorption costing and vice-versa. **F8** will display the variance reconciliation under marginal costing. See figure 3.33

Reconciliation of budgeted and actual profit for the month of January

Budgeted Net Profit			45,090
Sales variances :			
Sales margin price - Prod A	0 -		
Sales margin volume - Prod A	9,000 F	9,000 F	
Direct cost variances :			
Material : Price	2,210 A		
Usage	0 -	2,210 A	
Labour : Rate	325 F		
Efficiency	0 -	325 F	
Manufacturing overhead variances:			
Fixed overhead expenditure	7,873 A		
Variable overhead expenditure	0 -		
Variable overhead efficiency	0 -	7,873 A	
Production Variance		6,840 A	7,598 A
Actual Net profit			37,492

ESC- MAIN MENU F8 for P&L F9 for previous month F10 for next month

Figure 3.33

The variance analysis for a month can be controlled in a similar way to the profit and loss accounts. Again, **F9** and **F10** are used to page backwards and forwards between each months reconciliation statement. Pressing **F8** at this screen will return you to the profit and loss account for the **current month** i.e the month whose variance analysis you are viewing at the time the **F8** key is pressed. In addition, pressing escape will return control to the main menu.

3.4) DISPLAY YEAR TO DATE INFORMATION

[option **2** of the main menu]

This option is controlled in exactly the same way as displaying of monthly information, except that the figures displayed are for the year to the end of the month selected.

Paging up and down and toggling between marginal and absorption costing is achieved using the same function keys, as is variance analysis.

3.5) PRINT TUTORIAL PACKAGES

[option **3** of the main menu]

This option controls the output of information required for each of the six tutorials incorporated in the MATS.

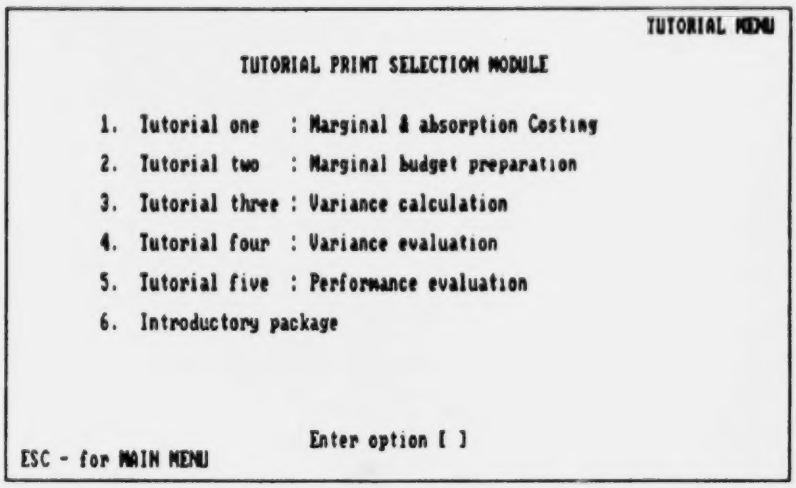

TUTORIAL MENU
TUTORIAL PRINT SELECTION MODULE
1. Tutorial one : Marginal & absorption Costing
2. Tutorial two : Marginal budget preparation
3. Tutorial three : Variance calculation
4. Tutorial four : Variance evaluation
5. Tutorial five : Performance evaluation
6. Introductory package
Enter option [ ]
ESC - for MAIN MENU

Figure 3.51

The tutorial package that you wish to print out or write to a file is selected by entering the number of your choice in the highlighted box.

Once you have selected the tutorial, a message will appear at the base of the screen:

Output to file [_]

You must select '**Y**' or '**N**' at this prompt.

Pressing the '**Y**' key will cause the tutorial to be output to a file. You will therefore be asked to enter a filename for the output. For convenience, a default is provided for you, which you may accept by pressing return. If you wish to enter your own filename, simply overwrite the suggested name with your own choice. The filename may be up to eight letters long and must be alphabetical characters (i.e. A - Z case insensitive). Press return when you have typed your filename to accept it. Having done this you will be supplied with a brief description of the data you are about to output, and asked to confirm with a '**Y**' or '**N**' that this is correct. Pressing '**Y**' will start the output of data. Wait until the display reverts to its original state before typing anything else.

Pressing the '**N**' key at the '**Output to file [ ]**' prompt will mean that data is sent directly to the printer. You will be given a brief description of the data about to be output and asked to confirm with a '**Y**' or '**N**'.

3.6) PRINTOUT SELECTOR

[option **4** of the main menu]

This option allows you to select from the whole scope of system outputs. See figure 3.61.

The screen is made up of twelve vertical strips corresponding to each month of the year. These strips are basically lines of highlighted boxes, each box corresponding to the item described on the left for the particular month. For example, the top right hand box corresponds to January's profit and loss account prepared under marginal costing; the bottom right hand box corresponds to the year to December performance report. To select a particular item, use the down arrow key until you reach the correct box and type '**Y**'. You can select as many of the boxes as you wish to output using this method. Only boxes that contain a '**Y**' will be output. If you make a mistake you can correct it by using the up arrow key to move back through the boxes. When you are happy with your selection, pressing the **ESC** key will accept the boxes containing a '**Y**' for output. Otherwise you could

continue to press the down arrow key until the cursor reaches 'Output to file [_]'. If you wish to direct output to a file type '**Y**' and enter an eight letter file name in the space provided. The default file name is '**OUT.PRN**'. If you do not wish to output to a file, type '**N**' at '**Output to file**' and the information will be directed straight to the printer.

The system will then begin generating the output. Progress is indicated by the disappearance in order of the highlighted boxes. Wait until all the boxes have disappeared and the message 'Enter another print selection (y/n) [_]' appears at the bottom of the screen. If you wish to run the module again type '**Y**', otherwise you will be returned to the main menu.

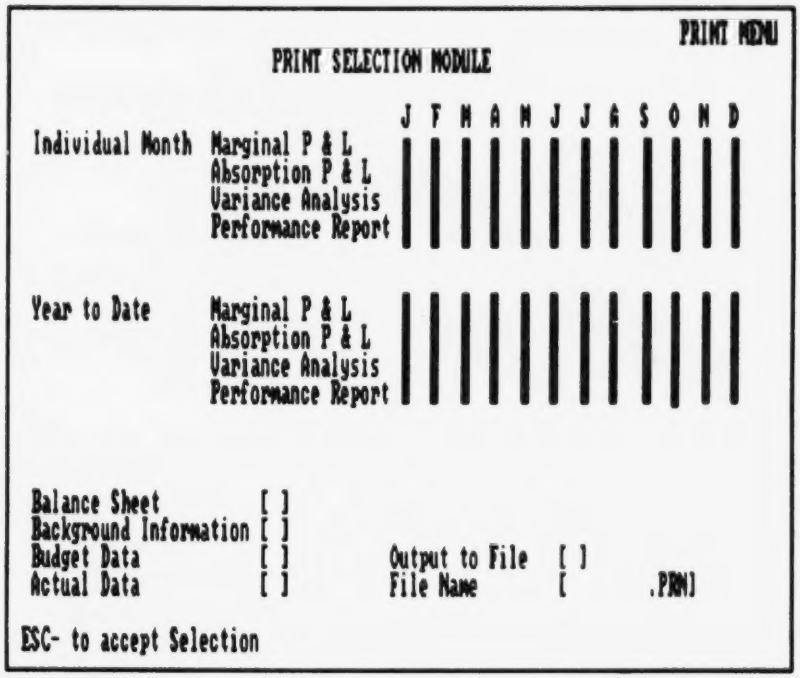


Figure 3.61

3.7) GENERATE SYSTEM DATA

[option **5** of the main menu]

Selecting this option, the generation module menu will appear on the screen. See figure 3.71.

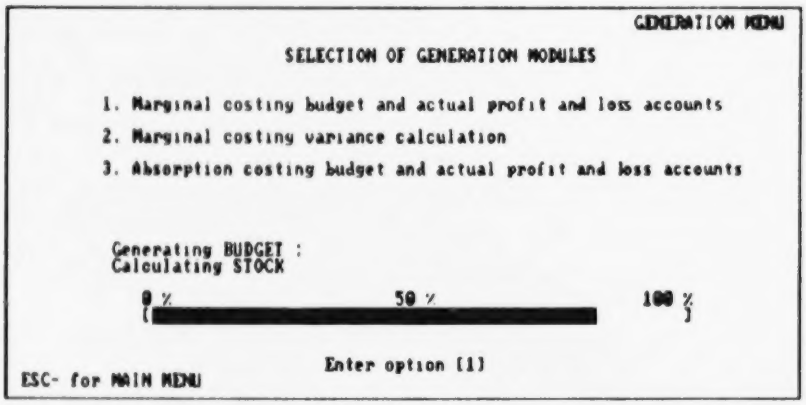

GENERATION MENU
SELECTION OF GENERATION MODULES
1. Marginal costing budget and actual profit and loss accounts
2. Marginal costing variance calculation
3. Absorption costing budget and actual profit and loss accounts
Generating BUDGET :
Calculating STOCK
0 %
50 %
100 %
Enter option [1]
ESC- for MAIN MENU

Figure 3.71

There are three options to this menu, marginal costing, variance calculation and absorption costing generation. Enter your choice of module at the base of the screen. Note that if any of the menu items are flashing, then they need to be generated to ensure that the system data is up to date.

On selecting a menu item, a highlighted bar will appear across the bottom of the screen which will gradually disappear as the generator progresses. In addition, a commentary of the operations will be displayed. When the bar has completely gone the generator has finished and you will be returned to the generation menu again. You may then either select another option or press the escape key to return to the main menu.

Note : At any point during generation, the process can be aborted by hitting the **ESC** key, whereupon you will be returned to the main menu. This will mean however that the system data may not be correct, and a warning will appear on the main menu screen. It is important that the generator is re-run and flashing options carried out so that all system data is correct.

4.0 ERROR DESCRIPTIONS

If an error occurs in MATS a small description appears on the screen in a double lined box. The probable causes and cures are outlined below. There could be other problems that we have not anticipated, thus if possible always consult an expert.

ERROR 1 : The printer is not responding to MATS requests.
CAUSE : Printer not turned on, not ready, paper out, not connected or a hardware fault.
CURE : Check the computer, printer, cable and paper. Try again, if the printer still does not respond to MATS, there is probably a hardware fault.

ERROR 2 : A MATS file has been write protected.
CAUSE : Someone has run a program that sets a file that MATS uses to 'read only'
CURE : Use the dos 'ATTRIB' command at the dos prompt type : ATTRIB - R filename

ERROR 3 : A MATS file has been encrypted.
CAUSE : Someone has encrypted a dBase file.
CURE : Re-install MATS

ERROR 4 : A MATS file was shorter than expected.
CAUSE : Records have been lost or deleted.
CURE : Re-install MATS

ERROR 5 : A MATS file could not be found on the disk.
CAUSE : A file has been deleted or lost.
CURE : Re-install MATS

ERROR 6 : A MATS file could not be corrected.
CAUSE : The disk drive being used might be full or corrupted.
CURE : Use the DOS command 'DIR' to check the free space on the disk, if the space is above a reasonable size, e.g. 50,000 bytes, there is probable a hardware problem with your computer. Otherwise delete some of your own files e.g OUT.prn and other .prn files by typing at the dos prompt 'DEL OUT.PRN'.

ERROR 7 : A MATS machine code module could not be loaded.
CAUSE : The required file is missing or corrupted from the disk.
CURE : Re-install MATS or copy the *.bin files from another copy of MATS.

ERROR 8 : Not enough memory to run the system.
CAUSE : The computer you are using has less than 512K of memory, or you have run some other program before MATS that has not released the memory.
CURE : Re-Boot the computer and reload MATS, if the same error appears you have a Hardware fault.

ERROR 9 : The network server is busy.
CAUSE : The network server is being used or the network has a problem.
CURE : After a few minutes, try MATS again, if it still does not work check that the network is running correctly.

ERROR 10 : A dBase file has become corrupted.
CAUSE : a fault on the disk.
CURE : Re-install MATS.

ERROR 11 : Overflow in a mathematical calculation.
CAUSE : A MATS's input file might have been changed.
CURE : Re-install MATS or change the input DATA manually.

ERROR 12 : The specified memory space has been exceeded.
CAUSE : A dBase's set up file is not compatible with MATS.
CURE : Get an experienced dBase user to change a the memory limit in the file CONFIG.DB.

ERROR 13 : Exceeded the allowable number of open files.
CAUSE : A dBase's set up file is not compatible with MATS.
CURE : Get an experienced dBase user to change the memory limit in the file CONFIG.DB.

ERROR 14 : There is a problem with you copy of dBase.
CAUSE : The dBase disk has corrupted.
CURE : Get an experienced dBase user to re-install dBase.

ERROR 15 : An error in MATS occurred that was not anticipated.

CAUSE : The MATS disk has become corrupted, the computer system is below the minimum requirement or we missed an error when testing.

CURE : Check that your system is working and correct e.g. dBase3 + not dBase3. Otherwise contact a dBase programmer with knowledge of MATS.

5.0 INDEX OF TUTORIALS

TUTORIAL ONE :

Marginal and absorption costing - January and February s profit and loss accounts under both marginal and absorption costing

TUTORIAL TWO :

Marginal budget preparation - March and April s marginal profit and loss accounts.

TUTORIAL THREE :

Varaince calculation - Reconciliation statements for each month to April.

TUTORIAL FOUR :

Variance evaluation - Performance reports for each month to April.

TUTORIAL FIVE :

Performance evaluation - Profit and loss acounts for the months of May and June, and the profit and loss account for the year to June.

INTRODUCTORY PACKAGE :

Introductory package - Handout for students that includes budgeted balance sheet, background of the company, assumptions of the budget, and complete budget and actual costing information.

TUTORIAL ONE

BUDGETED and ACTUAL Profit and Loss Account for February — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,339,000		1,348,000
Opening Stock	1,306,190		1,300,400	
Material Purchases	1,185,380		1,187,080	
Direct Labour	81,150		80,900	
Direct Electricity	47,220		47,220	
Closing Stock	(1,493,130)		(1,480,200)	
COST OF SALES		1,126,810		1,135,400
GROSS PROFIT		212,190		212,600
Non-direct costs		182,000		179,013
NET PROFIT		30,190		33,587
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		1,240		6,313
Profit b/f		848,140		842,218
Profit c/f		849,380		848,531

BUDGETED and ACTUAL Profit and Loss Account for February — ABSORPTION COSTING

	BUDGET		ACTUAL	
SALES		1,339,000		1,348,000
Opening Stock	1,452,450		1,445,950	
Production Cost	1,332,968		1,334,668	
Direct Labour	81,150		80,900	
Direct Electricity	47,220		47,220	
Closing Stock	(1,659,980)		(1,645,630)	
Adjustment			0	
COST OF SALES		1,253,808		1,263,108
GROSS PROFIT		85,192		84,892
Non-manuf. costs		34,000		32,780
NET PROFIT		51,192		52,112
Less Interest	5,000		5,000	
Tax	24,261		24,618	
Dividends	0	29,261	0	29,618
		21,931		22,494
Profit b/f		894,535		918,050
Profit c/f		916,466		940,544

BUDGETED and ACTUAL Profit and Loss Account for January — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,424,000		1,433,000
Opening Stock	852,800		853,850	
Material Purchases	1,490,440		1,492,650	
Direct Labour	101,700		101,375	
Direct Electricity	59,160		59,160	
Closing Stock	(1,306,190)		(1,300,400)	
COST OF SALES		1,197,910		1,206,635
GROSS PROFIT		226,090		226,365
Non-direct costs		181,000		188,873
NET PROFIT		45,090		37,492
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		16,140		10,218
Profit b/f		832,000		832,000
Profit c/f		848,140		842,218

BUDGETED and ACTUAL Profit and Loss Account for January — ABSORPTION COSTING

	BUDGET		ACTUAL	
SALES		1,424,000		1,433,000
Opening Stock	948,650		949,700	
Production Cost	1,675,455		1,677,665	
Direct Labour	101,700		101,375	
Direct Electricity	59,160		59,160	
Closing Stock	(1,452,450)		(1,445,950)	
Adjustment			0	
COST OF SALES		1,332,515		1,341,950
GROSS PROFIT		91,485		91,050
Non-manuf. costs		33,000		34,230
NET PROFIT		58,485		56,820
Less Interest	5,000		5,000	
Tax	24,261		24,618	
Dividends	0	29,261	0	29,618
		29,224		27,202
Profit b/f		832,000		832,000
Profit c/f		861,224		859,202

TUTORIAL TWO

BUDGETED and ACTUAL Profit and Loss Account for March — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,486,000		1,468,000
Opening Stock	1,493,130		1,480,200	
Material Purchases	1,191,500		1,193,200	
Direct Labour	81,500		81,250	
Direct Electricity	47,400		47,400	
Closing Stock	(1,563,600)		(1,565,700)	
COST OF SALES		1,249,930		1,236,350
GROSS PROFIT		236,070		231,650
Non-direct costs		187,000		182,153
NET PROFIT		49,070		49,497
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		20,120		22,223
Profit b/f		849,380		848,531
Profit c/f		869,500		870,754

BUDGETED and ACTUAL Profit and Loss Account for April — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,716,000		1,752,000
Opening Stock	1,563,600		1,565,700	
Material Purchases	1,186,880		1,188,580	
Direct Labour	81,150		80,900	
Direct Electricity	47,220		47,220	
Closing Stock	(1,436,040)		(1,408,080)	
COST OF SALES		1,442,810		1,474,320
GROSS PROFIT		273,190		277,680
Non-direct costs		189,000		191,000
NET PROFIT		84,190		86,680
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		55,240		59,406
Profit b/f		869,500		870,754
Profit c/f		924,740		930,160

TUTORIAL THREE

Reconciliation of budgeted and actual profit for the month of January

Budgeted Net Profit			45,090
Sales variances :			
Sales margin price - Prod A	0 -		
Sales margin volume - Prod A	9,000 F	9,000 F	
Direct cost variances :			
Material : Price	2,210 A		
Usage	0 -	2,210 A	
Labour : Rate	325 F		
Efficiency	0 -	325 F	
Manufacturing overhead variances:			
Fixed overhead expenditure	7,873 A		
Variable overhead expenditure	0 -		
Variable overhead efficiency	0 -	7,873 A	
Production Variance		6,840 A	7,598 A
Actual Net profit			37,492

Reconciliation of budgeted and actual profit for the month of February

Budgeted Net Profit			30,190
Sales variances :			
Sales margin price - Prod A	0 -		
Sales margin volume - Prod A	9,000 F	9,000 F	
Direct cost variances :			
Material : Price	1,700 A		
Usage	0 -	1,700 A	
Labour : Rate	250 F		
Efficiency	0 -	250 F	
Manufacturing overhead variances:			
Fixed overhead expenditure	2,987 F		
Variable overhead expenditure	0 -		
Variable overhead efficiency	0 -	2,987 F	
Production Variance		7,140 A	3,397 F
Actual Net profit			33,587

Reconciliation of budgeted and actual profit for the month of March

Budgeted Net Profit			49,070
Sales variances :			
Sales margin price - Prod A	0 -		
Sales margin volume - Prod A	18,000 A	18,000 A	
Direct cost variances :			
Material : Price	1,700 A		
Usage	0 -	1,700 A	
Labour : Rate	250 F		
Efficiency	0 -	250 F	
Manufacturing overhead variances:			
Fixed overhead expenditure	4,847 F		
Variable overhead expenditure	0 -		
Variable overhead efficiency	0 -	4,847 F	
Production Variance		15,030 F	427 F
Actual Net profit			49,497

Reconciliation of budgeted and actual profit for the month of April

Budgeted Net Profit			84,190
Sales variances :			
Sales margin price - Prod A	0 -		
Sales margin volume - Prod A	36,000 F	36,000 F	
Direct cost variances :			
Material : Price	1,700 A		
Usage	0 -	1,700 A	
Labour : Rate	250 F		
Efficiency	0 -	250 F	
Manufacturing overhead variances:			
Fixed overhead expenditure	2,000 A		
Variable overhead expenditure	0 -		
Variable overhead efficiency	0 -	2,000 A	
Production Variance		30,060 A	2,490 F
Actual Net profit			86,680

PERFORMANCE REPORT		
Period : January	Actual Production (std hrs)	15,204
	Actual Working hours	14,960
	Budgeted Hours	12,160
Control Variances : Efficiency 123.0 %	Capacity 98.3 %	Volume 125.0 %

SALES VARIANCES Std Sales (A)	Act Sales (A)	Std Price	Act Price	Price Variance	Usage Variance	Reference
44,000	45,000	9.00	9.00	0 -	9,000 F	

MATERIAL VARIANCES Type	Std Prod (A)	Act Prod (A)	Std Cost	Act Cost	Usage Variance	Price Variance	Ref.
Fibre	65,000	65,000	5.500	5.500	0 -	0 -	
Dye	65,000	65,000	0.680	0.714	0 -	2,210 A	
Others	65,000	65,000	0.620	0.620	0 -	0 -	
TOTAL	65,000	65,000	6.800	6.834	0 -	2,210 A	

LABOUR VARIANCES Std Prod (A)	Act Prod (A)	Std Lab Price per sq.m	Act Lab Price per sq.m	Wage rate Variance	Lab Effic. Variance	Reference
65,000	65,000	0.400	0.395	0 -	325 F	

OVERHEAD VARIANCES i) FIXED Allowed Cost	Actual Cost	Expenditure Variance	Reference
181,000	186,873	7,873 A	

ii) VARIABLE Type	Std Prod (A)	Act Prod (A)	Std Price	Act Price	Var o/h Effic.	Var o/h Exp.	Ref.
Electric	65,000	65,000	0.240	0.240	0 -	0 -	

PRODUCTION VARIANCE Bud Opening Stock	Act Opening Stock	Bud Closing Stock	Act Closing Stock	Production Variance	Reference
852,800	853,850	1,306,190	1,300,400	6,840 A	

PERFORMANCE REPORT

Period : February

Actual Production (std hrs)	12,132
Actual Working hours	11,938
Budgeted Hours	12,160

Control Variances : Efficiency 49.0 % Capacity 98.4 % Volume 49.8 %

SALES VARIANCES Std Sales (A)	Act Sales (A)	Std Price	Act Price	Price Variance	Usage Variance	Reference
39,000	40,000	9.00	9.00	0 -	9,000 F	

MATERIAL VARIANCES Type	Std Prod (A)	Act Prod (A)	Std Cost	Act Cost	Usage Variance	Price Variance	Ref.
Fibre	50,000	50,000	5.500	5.500	0 -	0 -	
Dye	50,000	50,000	0.680	0.714	0 -	1,700 A	
Others	50,000	50,000	0.620	0.620	0 -	0 -	
TOTAL	50,000	50,000	6.800	6.834	0 -	1,700 A	

LABOUR VARIANCES Std Prod (A)	Act Prod (A)	Std Lab Price per sq.m	Act Lab Price per sq.m	Wage rate Variance	Lab Effic. Variance	Reference
50,000	50,000	0.400	0.395	0 -	250 F	

OVERHEAD VARIANCES i) FIXED Allowed Cost	Actual Cost	Expenditure Variance	Reference
182,000	179,013	2,987 F	

ii) VARIABLE Type	Std Prod (A)	Act Prod (A)	Std Price	Act Price	Var o/h Effic.	Var o/h Exp.	Ref.
Electric	50,000	50,000	0.240	0.240	0 -	0 -	

PRODUCTION VARIANCE Bud Opening Stock	Act Opening Stock	Bud Closing Stock	Act Closing Stock	Production Variance	Reference
1,306,190	1,300,400	1,493,130	1,480,200	7,140 A	

PERFORMANCE REPORT

Period : March

Actual Production (std hrs)	12,184
Actual Working hours	11,990
Budgeted Hours	12,160

Control Variances : Efficiency 32.8 % Capacity 98.4 % Volume 33.4 %

SALES VARIANCES Std Sales (A)	Act Sales (A)	Std Price	Act Price	Price Variance	Usage Variance	Reference
47,000	45,000	9.00	9.00	0 -	18,000 A	

MATERIAL VARIANCES Type	Std Prod (A)	Act Prod (A)	Std Cost	Act Cost	Usage Variance	Price Variance	Ref.
Fibre	50,000	50,000	5.500	5.500	0 -	0 -	
Dye	50,000	50,000	0.680	0.714	0 -	1,700 A	
Others	50,000	50,000	0.620	0.620	0 -	0 -	
TOTAL	50,000	50,000	6.800	6.834	0 -	1,700 A	

LABOUR VARIANCES Std Prod (A)	Act Prod (A)	Std Lab Price per sq.m	Act Lab Price per sq.m	Wage rate Variance	Lab Effic. Variance	Reference
50,000	50,000	0.400	0.395	0 -	250 F	

OVERHEAD VARIANCES i) FIXED Allowed Cost	Actual Cost	Expenditure Variance	Reference
187,000	182,153	4,847 F	

ii) VARIABLE Type	Std Prod (A)	Act Prod (A)	Std Price	Act Price	Var o/h Effic.	Var o/h Exp.	Ref.
Electric	50,000	50,000	0.240	0.240	0 -	0 -	

PRODUCTION VARIANCE Bud Opening Stock	Act Opening Stock	Bud Closing Stock	Act Closing Stock	Production Variance	Reference
1,493,130	1,480,200	1,563,600	1,565,700	15,030 F	

PERFORMANCE REPORT

Period : April

Actual Production (std hrs)	12,132
Actual Working hours	11,938
Budgeted Hours	12,160

Control Variances : Efficiency 24.5 % Capacity 98.4 % Volume 24.9 %

SALES VARIANCES Std Sales (A)	Act Sales (A)	Std Price	Act Price	Price Variance	Usage Variance	Reference
56,000	60,000	9.00	9.00	0 -	36,000 F	

MATERIAL VARIANCES Type	Std Prod (A)	Act Prod (A)	Std Cost	Act Cost	Usage Variance	Price Variance	Ref.
Fibre	50,000	50,000	5.500	5.500	0 -	0 -	
Dye	50,000	50,000	0.680	0.714	0 -	1,700 A	
Others	50,000	50,000	0.620	0.620	0 -	0 -	
TOTAL	50,000	50,000	6.800	6.834	0 -	1,700 A	

LABOUR VARIANCES Std Prod (A)	Act Prod (A)	Std Lab Price per sq.m	Act Lab Price per sq.m	Wage rate Variance	Lab Effic. Variance	Reference
50,000	50,000	0.400	0.395	0 -	250 F	

OVERHEAD VARIANCES i) FIXED Allowed Cost	Actual Cost	Expenditure Variance	Reference
189,000	191,000	2,000 A	

ii) VARIABLE Type	Std Prod (A)	Act Prod (A)	Std Price	Act Price	Var o/h Effic.	Var o/h Exp.	Ref.
Electric	50,000	50,000	0.240	0.240	0 -	0 -	

PRODUCTION VARIANCE Bud Opening Stock	Act Opening Stock	Bud Closing Stock	Act Closing Stock	Production Variance	Reference
1,563,600	1,565,700	1,436,040	1,408,080	30,060 A	

TUTORIAL FIVE

BUDGETED and ACTUAL Profit and Loss Account for May — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,724,000		1,760,000
Opening Stock	1,436,040		1,408,080	
Material Purchases	1,191,500		1,193,200	
Direct Labour	81,500		81,250	
Direct Electricity	47,400		47,400	
Closing Stock	(1,306,980)		(1,248,960)	
COST OF SALES		1,449,460		1,480,970
GROSS PROFIT		274,540		279,030
Non-direct costs		189,000		193,230
NET PROFIT		85,540		85,800
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		56,590		58,526
Profit b/f		924,740		930,160
Profit c/f		981,330		988,686

BUDGETED and ACTUAL Profit and Loss Account for June — MARGINAL COSTING

	BUDGET		ACTUAL	
SALES		1,449,000		1,482,000
Opening Stock	1,306,980		1,248,960	
Material Purchases	1,555,940		1,558,150	
Direct Labour	101,700		101,375	
Direct Electricity	59,160		59,160	
Closing Stock	(1,805,610)		(1,733,160)	
COST OF SALES		1,218,170		1,234,485
GROSS PROFIT		230,830		247,515
Non-direct costs		184,000		198,160
NET PROFIT		46,830		49,355
Less Interest	5,000		5,000	
Tax	23,950		22,274	
Dividends	0	28,950	0	27,274
		17,880		22,081
Profit b/f		981,330		988,686
Profit c/f		999,210		1,010,767

INTRODUCTORY PACKAGE

FORECAST BALANCE SHEET OF X Co. LTD.

FIXED ASSETS		
Cost		2,074,360
Acc. Depn.		725,960
NBV		1,348,400
CURRENT ASSETS		
Stock	986,900	
Trade Debtors	1,253,000	
Other Debtors	43,430	
Bank	640	
CURRENT LIABILITIES		
Trade Creditors	(1,160,700)	
Other Creditors	(517,670)	
NET CURRENT ASSETS		605,600
TOTAL ASSETS LESS CURRENT LIABILITIES		1,954,000
CREDITORS DUE AFTER > ONE YEAR		(800,000)
		1,154,000
Represented by:		
CAPITAL & RESERVES		
Share Capital		20,000
Profit & Loss account		1,134,000
		1,154,000

BACKGROUND INFORMATION

X Co. Ltd. is a small, but well established, carpet manufacturing company selling in the cheap end of the carpet market. It sells on a wholesale basis to major department stores and carpet warehouses.

X Co. Ltd. operates from 2 adjacent sites. The main factory accommodates most of the production including dyeing and weaving. The adjacent finishing plant and warehouse operates as a separate cost centre.

X Co. Ltd. makes two types of carpets, luxury and standard quality, either of which can be natural or dyed. The difference between luxury and standard carpets is only in the quality of the raw fibre. The difference is reflected in the cost of the fibre and we can assume that the two fibres are homogeneous in terms of quantity of fibre used, labour and machine time required, dye absorbency etc. Of course there are extra costs of labour, materials, direct electricity in producing a dyed carpet rather than a natural carpet.

The figures presented are not those of any known company and any resemblance to the figures of any company is coincidental. However some time has been spent in researching the accounts of companies in the carpet industry so that margins, asset base, stock levels, employee numbers and pay rates etc. are realistically presented. Of course certain simplifying assumptions have had to be made, most noticeably with respect to product lines which may typically number 30 different specifications. However, the intention was to retain sufficient complexity to present a realistic picture of management accounting as it happens in industry.

ASSUMPTIONS FOR BUDGET

1. Inflation is very low and no unit price increases of input or output anticipated during the year except, for raw materials.

2. The company has 8 production runs of four week duration and 4 of five week duration. There are 2 two week production shut-downs,the first in July andthe second in December.

3. There is a Seasonal pattern - increased buying by the customers for the Jan & June "Sales" occurs in April / May and October / November. These months are generally followed by a couple of relatively poor months, particularly July & December when the shut down occurs.

4. No changes to staff levels are anticipated. Annual pay increases are effected to coincide with the start of the company's financial year and this increase has been incorporated into the standard costs of A,B,C,D and into the budget. All employees are paid in 12 equal monthly instalments direct to their banks.

5. Steady production is assumed throughout year, fluctuations in the closing stock levels are due to seasonal sales.

6. All materials are readily available and are purchased weekly, to meet production, from any of several local suppliers. Thus, very low raw material buffer stocks are carried and can be ignored.

7. Finishing is assumed to be carried out as the production is completed i.e. on the same day. Thus, there is no WIP between the production plant and the finishing plant.

Budgeted Standard Costs For Product A

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.400	0.240	5.500	0.680	0.620	7.440
JANUARY	0.400	0.240	5.500	0.680	0.620	7.440
FEBRUARY	0.400	0.240	5.500	0.680	0.620	7.440
MARCH	0.400	0.240	5.500	0.680	0.620	7.440
APRIL	0.400	0.240	5.500	0.680	0.620	7.440
MAY	0.400	0.240	5.500	0.680	0.620	7.440
JUNE	0.400	0.240	5.750	0.680	0.620	7.690
JULY	0.400	0.240	5.750	0.680	0.620	7.690
AUGUST	0.400	0.240	5.750	0.680	0.620	7.690
SEPTEMBER	0.400	0.240	5.750	0.680	0.620	7.690
OCTOBER	0.400	0.240	5.750	0.680	0.620	7.690
NOVEMBER	0.400	0.240	5.750	0.680	0.620	7.690
DECEMBER	0.400	0.240	5.750	0.680	0.620	7.690

Budgeted Standard Costs For Product B

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.350	0.180	5.500	0.000	0.620	6.650
JANUARY	0.350	0.180	5.500	0.000	0.620	6.650
FEBRUARY	0.350	0.180	5.500	0.000	0.620	6.650
MARCH	0.350	0.180	5.500	0.000	0.620	6.650
APRIL	0.350	0.180	5.500	0.000	0.620	6.650
MAY	0.350	0.180	5.500	0.000	0.620	6.650
JUNE	0.350	0.180	5.750	0.000	0.620	6.900
JULY	0.350	0.180	5.750	0.000	0.620	6.900
AUGUST	0.350	0.180	5.750	0.000	0.620	6.900
SEPTEMBER	0.350	0.180	5.750	0.000	0.620	6.900
OCTOBER	0.350	0.180	5.750	0.000	0.620	6.900
NOVEMBER	0.350	0.180	5.750	0.000	0.620	6.900
DECEMBER	0.350	0.180	5.750	0.000	0.620	6.900

Budgeted Standard Costs For Product C

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.400	0.240	4.000	0.680	0.620	5.940
JANUARY	0.400	0.240	4.000	0.680	0.620	5.940
FEBRUARY	0.400	0.240	4.000	0.680	0.620	5.940
MARCH	0.400	0.240	4.000	0.680	0.620	5.940
APRIL	0.400	0.240	4.000	0.680	0.620	5.940
MAY	0.400	0.240	4.000	0.680	0.620	5.940
JUNE	0.400	0.240	4.250	0.680	0.620	6.190
JULY	0.400	0.240	4.250	0.680	0.620	6.190
AUGUST	0.400	0.240	4.250	0.680	0.620	6.190
SEPTEMBER	0.400	0.240	4.250	0.680	0.620	6.190
OCTOBER	0.400	0.240	4.250	0.680	0.620	6.190
NOVEMBER	0.400	0.240	4.250	0.680	0.620	6.190
DECEMBER	0.400	0.240	4.250	0.680	0.620	6.190

Budgeted Standard Costs For Product D

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.350	0.180	4.000	0.000	0.620	5.150
JANUARY	0.350	0.180	4.000	0.000	0.620	5.150
FEBRUARY	0.350	0.180	4.000	0.000	0.620	5.150
MARCH	0.350	0.180	4.000	0.000	0.620	5.150
APRIL	0.350	0.180	4.000	0.000	0.620	5.150
MAY	0.350	0.180	4.000	0.000	0.620	5.150
JUNE	0.350	0.180	4.250	0.000	0.620	5.400
JULY	0.350	0.180	4.250	0.000	0.620	5.400
AUGUST	0.350	0.180	4.250	0.000	0.620	5.400
SEPTEMBER	0.350	0.180	4.250	0.000	0.620	5.400
OCTOBER	0.350	0.180	4.250	0.000	0.620	5.400
NOVEMBER	0.350	0.180	4.250	0.000	0.620	5.400
DECEMBER	0.350	0.180	4.250	0.000	0.620	5.400

	Budgeted Selling Prices			
Month	Product A	Product B	Product C	Product D
YEAREND	9.000	8.000	7.000	6.000
JANUARY	9.000	8.000	7.000	6.000
FEBRUARY	9.000	8.000	7.000	6.000
MARCH	9.000	8.000	7.000	6.000
APRIL	9.000	8.000	7.000	6.000
MAY	9.000	8.000	7.000	6.000
JUNE	9.000	8.000	7.000	6.000
JULY	9.300	8.300	7.300	6.300
AUGUST	9.300	8.300	7.300	6.300
SEPTEMBER	9.300	8.300	7.300	6.300
OCTOBER	9.300	8.300	7.300	6.300
NOVEMBER	9.300	8.300	7.300	6.300
DECEMBER	9.300	8.300	7.300	6.300

Budgeted Distribution and Advertising Costs

Month	Distribution	Advertising
JANUARY	31000	2000
FEBRUARY	31000	3000
MARCH	34000	5000
APRIL	36000	5000
MAY	36000	5000
JUNE	34000	2000
JULY	31000	3000
AUGUST	34000	5000
SEPTEMBER	38000	5000
OCTOBER	33000	4000
NOVEMBER	31000	2000
DECEMBER	31000	3000

Budgeted Indirect Costs

Month	Rent&Rate	Labour	Deprec.	Maint&Rep	PlantHire	Energy	Other
JANUARY	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
FEBRUARY	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
MARCH	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
APRIL	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
MAY	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
JUNE	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
JULY	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
AUGUST	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
SEPT	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
OCTOBER	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
NOVEMBER	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33
DECEMBER	58333.33	30000.00	25000.00	16666.67	8666.67	5000.00	4333.33

Budgeted Opening Stock, Production and Sales
(Units of Product A)

Month	Closing Stock	Production	Sales
Year End	35000	0	0
January	56000	65000	44000
February	67000	50000	39000
March	70000	50000	47000
April	64000	50000	56000
May	58000	50000	56000
June	75000	65000	48000
July	66000	23000	32000
August	68000	50000	48000
September	69000	65000	64000
October	58000	50000	61000
November	47000	50000	61000
December	40000	37000	44000
*** Total ***		605000	600000

Budgeted Opening Stock, Production and Sales
(Units of Product B)

Month	Closing Stock	Production	Sales
Year End	20000	0	0
January	28000	31000	23000
February	31000	24000	21000
March	33000	25000	23000
April	30000	25000	28000
May	26000	25000	29000
June	31000	31000	26000
July	25000	13000	19000
August	27000	25000	23000
September	27000	31000	31000
October	24000	25000	28000
November	21000	25000	28000
December	20000	20000	21000
*** Total ***		300000	300000

Budgeted Opening Stock, Production and Sales
(Units of Product C)

Month	Closing Stock	Production	Sales
Year End	60000	0	0
January	95000	135000	100000
February	105000	110000	100000
March	110000	110000	105000
April	102000	110000	118000
May	94000	110000	118000
June	134000	135000	95000
July	96000	55000	93000
August	101000	110000	105000
September	106000	135000	130000
October	98000	110000	118000
November	90000	110000	118000
December	70000	80000	100000
*** Total ***		1310000	1300000

Budgeted Opening Stock, Production and Sales
(Units of Product D)

Month	Closing Stock	Production	Sales
Year End	20000	0	0
January	27000	31000	24000
February	32000	25000	20000
March	33000	25000	24000
April	30000	24000	27000
May	28000	25000	27000
June	35000	31000	24000
July	30000	14000	19000
August	29000	25000	26000
September	30000	31000	30000
October	26000	24000	28000
November	23000	25000	28000
December	20000	20000	23000
*** Total ***		300000	300000

Actual Standard Costs For Product A

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.395	0.240	5.500	0.714	0.620	7.469
JANUARY	0.395	0.240	5.500	0.714	0.620	7.469
FEBRUARY	0.395	0.240	5.500	0.714	0.620	7.469
MARCH	0.395	0.240	5.500	0.714	0.620	7.469
APRIL	0.395	0.240	5.500	0.714	0.620	7.469
MAY	0.395	0.240	5.500	0.714	0.620	7.469
JUNE	0.395	0.240	5.750	0.714	0.620	7.719
JULY	0.395	0.230	5.750	0.714	0.570	7.659
AUGUST	0.395	0.230	6.325	0.785	0.570	8.305
SEPTEMBER	0.395	0.230	6.490	0.864	0.570	8.549
OCTOBER	0.395	0.230	5.900	0.785	0.570	7.880
NOVEMBER	0.395	0.230	5.900	0.785	0.620	7.930
DECEMBER	0.395	0.230	5.900	0.785	0.620	7.930

Actual Standard Costs For Product B

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.350	0.180	5.500	0.000	0.620	6.650
JANUARY	0.350	0.180	5.500	0.000	0.620	6.650
FEBRUARY	0.350	0.180	5.500	0.000	0.620	6.650
MARCH	0.350	0.180	5.500	0.000	0.620	6.650
APRIL	0.350	0.180	5.500	0.000	0.620	6.650
MAY	0.350	0.180	5.500	0.000	0.620	6.650
JUNE	0.350	0.180	5.750	0.000	0.620	6.900
JULY	0.350	0.180	5.750	0.000	0.620	6.900
AUGUST	0.350	0.180	5.750	0.000	0.620	6.900
SEPTEMBER	0.350	0.180	5.750	0.000	0.620	6.900
OCTOBER	0.350	0.180	5.750	0.000	0.620	6.900
NOVEMBER	0.350	0.180	5.750	0.000	0.620	6.900
DECEMBER	0.350	0.180	5.750	0.000	0.620	6.900

Actual Standard Costs For Product C

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.400	0.240	4.000	0.680	0.620	5.940
JANUARY	0.400	0.240	4.000	0.680	0.620	5.940
FEBRUARY	0.400	0.240	4.000	0.680	0.620	5.940
MARCH	0.400	0.240	4.000	0.680	0.620	5.940
APRIL	0.400	0.240	4.000	0.680	0.620	5.940
MAY	0.400	0.240	4.000	0.680	0.620	5.940
JUNE	0.400	0.240	4.250	0.680	0.620	6.190
JULY	0.400	0.240	4.250	0.680	0.620	6.190
AUGUST	0.400	0.240	4.250	0.680	0.620	6.190
SEPTEMBER	0.400	0.240	4.250	0.680	0.620	6.190
OCTOBER	0.400	0.240	4.250	0.680	0.620	6.190
NOVEMBER	0.400	0.240	4.250	0.680	0.620	6.190
DECEMBER	0.400	0.240	4.250	0.680	0.620	6.190

Actual Standard Costs For Product D

Month	Labour	Elec	Fibre	Dye	Other Mats	Total Std Cost
YEAREND	0.350	0.180	4.000	0.000	0.620	5.150
JANUARY	0.350	0.180	4.000	0.000	0.620	5.150
FEBRUARY	0.350	0.180	4.000	0.000	0.620	5.150
MARCH	0.350	0.180	4.000	0.000	0.620	5.150
APRIL	0.350	0.180	4.000	0.000	0.620	5.150
MAY	0.350	0.180	4.000	0.000	0.620	5.150
JUNE	0.350	0.180	4.250	0.000	0.620	5.400
JULY	0.350	0.180	4.250	0.000	0.620	5.400
AUGUST	0.350	0.180	4.250	0.000	0.620	5.400
SEPTEMBER	0.350	0.180	4.250	0.000	0.620	5.400
OCTOBER	0.350	0.180	4.250	0.000	0.620	5.400
NOVEMBER	0.350	0.180	4.250	0.000	0.620	5.400
DECEMBER	0.350	0.180	4.250	0.000	0.620	5.400

	Actual Selling Prices			
Month	Product A	Product B	Product C	Product D
YEAREND	9.000	8.000	7.000	6.000
JANUARY	9.000	8.000	7.000	6.000
FEBRUARY	9.000	8.000	7.000	6.000
MARCH	9.000	8.000	7.000	6.000
APRIL	9.000	8.000	7.000	6.000
MAY	9.000	8.000	7.000	6.000
JUNE	9.300	8.000	7.000	6.000
JULY	9.300	8.300	7.300	6.300
AUGUST	9.300	8.300	7.300	6.300
SEPTEMBER	9.600	8.300	7.300	6.300
OCTOBER	9.600	8.300	7.300	6.300
NOVEMBER	9.600	8.300	7.300	6.300
DECEMBER	9.600	8.300	7.300	6.300

Actual Distribution and Advertising Costs

Month	Distribution	Advertising
JANUARY	32430	1800
FEBRUARY	30980	1800
MARCH	34100	4750
APRIL	35110	4600
MAY	38020	4170
JUNE	32000	2040
JULY	33260	3480
AUGUST	35870	4690
SEPTEMBER	41330	5110
OCTOBER	35740	3230
NOVEMBER	34560	1540
DECEMBER	30290	1970

Actual Indirect Costs

Month	Rent&Rate	Labour	Deprec.	Maint&Rep	PlantHire	Energy	Other
JANUARY	58333.33	30000.00	28840.00	19400.00	10000.00	5000.00	3070.00
FEBRUARY	58333.33	30000.00	23080.00	15700.00	8000.00	5000.00	6120.00
MARCH	58333.34	30000.00	23080.00	16000.00	8000.00	5000.00	2890.00
APRIL	65000.00	30000.00	23080.00	16200.00	8000.00	5000.00	4010.00
MAY	65000.00	30000.00	23080.00	16200.00	8000.00	5000.00	3760.00
JUNE	65000.00	30000.00	28840.00	20000.00	10000.00	5000.00	5280.00
JULY	65000.00	30000.00	23080.00	16800.00	8000.00	5000.00	4160.00
AUGUST	65000.00	30000.00	23080.00	16600.00	8000.00	-7000.00	3990.00
SEPT	65000.00	30000.00	28840.00	20500.00	12000.00	5000.00	2740.00
OCTOBER	65000.00	30000.00	23080.00	16800.00	10000.00	5000.00	3550.00
NOVEMBER	65000.00	33500.00	23080.00	17000.00	10000.00	5000.00	4450.00
DECEMBER	65000.00	32500.00	28840.00	20500.00	10000.00	5000.00	6020.00

Actual Opening Stock, Production and Sales
(Units of Product A)

Month	Closing Stock	Production	Sales
Year End	35000	0	0
January	55000	65000	45000
February	65000	50000	40000
March	70000	50000	45000
April	60000	50000	60000
May	50000	50000	60000
June	65000	65000	50000
July	55000	25000	35000
August	55000	50000	50000
September	60000	75000	70000
October	55000	65000	70000
November	55000	65000	65000
December	40000	35000	50000
*** Total ***		645000	640000

Actual Opening Stock, Production and Sales
(Units of Product B)

Month	Closing Stock	Production	Sales
Year End	20000	0	0
January	28000	31000	23000
February	31000	24000	21000
March	33000	25000	23000
April	30000	25000	28000
May	26000	25000	29000
June	31000	31000	26000
July	25000	13000	19000
August	27000	25000	23000
September	27000	31000	31000
October	24000	25000	28000
November	21000	25000	28000
December	20000	20000	21000
*** Total ***		300000	300000

Actual Opening Stock, Production and Sales
(Units of Product C)

Month	Closing Stock	Production	Sales
Year End	60000	0	0
January	95000	135000	100000
February	105000	110000	100000
March	110000	110000	105000
April	102000	110000	118000
May	94000	110000	118000
June	134000	135000	95000
July	96000	55000	93000
August	101000	110000	105000
September	106000	135000	130000
October	98000	110000	118000
November	90000	110000	118000
December	70000	80000	100000
*** Total ***		1310000	1300000

Actual Opening Stock, Production and Sales
(Units of Product D)

Month	Closing Stock	Production	Sales
Year End	20000	0	0
January	27000	31000	24000
February	32000	25000	20000
March	33000	25000	24000
April	30000	24000	27000
May	28000	25000	27000
June	35000	31000	24000
July	30000	14000	19000
August	29000	25000	26000
September	30000	31000	30000
October	26000	24000	28000
November	23000	25000	28000
December	20000	20000	23000
*** Total ***		300000	300000

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